

FLOODPLAIN MANAGEMENT  
REGULATIONS  
FOR  
STATE OWNED STRUCTURES  
STATE OF MISSOURI

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## ARTICLE 1. FINDINGS OF FACT, PURPOSE AND OBJECTIVES

### SECTION A. Findings of Fact

(1) The flood hazard areas of the State of Missouri are subject to periodic inundation which results in loss of life, property, health and safety hazards, disruption of commerce and governmental services, extraordinary public expenditures for flood protection and relief, and impairment of the tax base, all of which adversely affect the public health, safety and general welfare of the people of the State of Missouri.

(2) These flood losses are caused by the cumulative effect of obstructions in flood plains causing increases in flood heights and velocities, and by the occupancy in flood hazard areas by uses vulnerable to floods or hazardous to other lands which are inadequately elevated, floodproofed, or otherwise protected from flood damages.

### SECTION B. Statement of Purpose

It is the purpose of this regulation to promote the public health, safety and general welfare and to minimize public and private losses due to flood conditions in specific areas by provisions designed to:

(1) Restrict or prohibit uses which are dangerous to health, safety and property due to water or erosion or in flood heights or velocities.

(2) Require that uses vulnerable to floods, including facilities which serve such uses, be protected against flood damage at the time of initial construction.

(3) Control the alteration of natural flood plains, stream channels, and natural protective barriers, which are involved in the accommodation of flood waters.

(4) Control filling, grading, dredging and other development which may increase erosion or flood damage.

(5) Prevent or regulate the construction of flood barriers which will unnaturally divert flood waters or which may increase flood hazards to other lands.

### SECTION C. Objectives

The objectives of this regulation are:

(1) To protect human life and health;

(2) To minimize expenditure of public money for costly flood control projects;

(3) To minimize the need for rescue and relief efforts associated with flooding and generally undertaken at the expense of the general public;

(4) To minimize prolonged interruptions of governmental services;

(5) To minimize damage to public facilities and utilities such as water and gas mains, electric, telephone and sewer lines, streets and bridges located in flood plains; and

(6) To provide for the sound use and development of flood-prone areas in such a manner as to minimize future flood risks.

## ARTICLE 2. DEFINITIONS

Unless specifically defined below, words or phrases used in this regulation shall be interpreted so as to give them the meaning they have in common usage and to give this regulation its most reasonable application.

"Appeal" means a request for a review of the state coordinator's interpretation of any provision of this ordinance or a request for a variance.

"Area of shallow flooding" means a designated AO Zone on a community's Flood Insurance Rate Map (FIRM) with base flood depths from one to three feet where a clearly defined channel does not exist, where the path of flooding is unpredictable and indeterminate, and where velocity flow may be evident.

"Area of special flood hazard" is the land in the flood plain within a community subject to a one percent or greater chance of flooding in any given year.

"Base flood" means the flood having a one percent chance of being equalled or exceeded in any given year.

"Base flood elevation" is the mean sea level elevation required to pass a base flood as defined.

"Community" means the state or political subdivision thereof which has authority to adopt and enforce flood plain management regulations for the areas within its jurisdiction.

"Development" means any man-made change to improved or unimproved real estate, including but not limited to buildings or other structures, mining, dredging, filling, grading, paving, excavation or drilling operations.

"Flood" or "Flooding" means a general and temporary condition of partial or complete inundation of normally dry land areas from: (1) the overflow of inland or tidal waters; (2) the unusual and rapid accumulation or runoff of surface waters from any source; (3) mudslides (i.e., mudflows) which are proximately caused or precipitated by accumulations of water on or under the ground.

"Flood Hazard Boundary Map (FHBM)" and "Flood Insurance Rate Map (FIRM)" means an official map of a community, on which the Federal Insurance Administration has delineated the Flood Hazard Boundaries.

"Flood Insurance Study" is the official report provided by the Federal Insurance Administration. The report contains flood profiles, as well as the Flood Boundary-Floodway Map and the water surface elevation of the base flood.

"Flood Plain Management" means the operation of an overall program of corrective and preventive measures for reducing flood damage, including but not limited to emergency preparedness plans, flood control works, and flood plain management regulations.

"Flood Protection System" consists of those physical structural works constructed specifically to modify flooding in order to reduce the extent of the area within a community subject to a "special flood hazard." Such a system typically includes levees or dikes. The specialized modifying works are those constructed in conformance with sound federal engineering standards.

"Floodproofing" is any combination of structural and non-structural additions, changes, or adjustments to structures, including utility and sanitary facilities, which would preclude the entry of water. Structural components shall have the capability of re-

sisting hydrostatic and hydrodynamic loads, and the effect of buoyancy.

"Floodway" means the channel of a river or other watercourse and the adjacent portion of the flood plain that must be reserved in order to discharge the hundred-year flood without cumulatively increasing the water surface elevation more than one foot at any point, assuming equal conveyance reduction outside the channel from the two sides of the flood plain.

"Floodway Fringe" consists of that area of flood plain, outside of the floodway, that on the average is likely to be flooded once every hundred years (in other words, that has a one percent chance of flood occurrence in any one year).

"Habitable floor" means any floor usable for living purposes, which includes working, sleeping, eating, cooking or recreation, or a combination thereof. A floor used only for storage purposes is not a "habitable floor."

"Mean sea level" means the average height of the sea for all stages of the tide.

"New construction" means structures for which the "start of construction" commenced on or after the effective date of this regulation.

"Start of construction" means the first placement of permanent construction of a structure on a site, such as the pouring of slabs or footings or any work beyond the stage of excavation. Permanent construction does not include land preparation, such as clearing, grading, and filling; nor does it include the installation of streets and/or walkways; nor does it include excavation for a basement, footings, piers or foundations or the erection of temporary forms; nor does it include the installation on the property of accessory buildings, such as garages or sheds not occupied as dwelling units or not as part of the main structure. For a structure without a basement or poured footings, the "start of construction" includes the first permanent framing or assembly of the structure or any part thereof on its piling or foundation.

"Structure" means, for flood plain management purposes, a walled and roofed building, including a gas or liquid storage tank, that is principally above ground, as well as a mobile or manufactured home.

"Substantial improvement" means any repair, reconstruction, or improvement of a structure, the cost of which equals or exceeds 50 percent of the market value of the structure either:

- (1) before the improvement or repair is started; or
- (2) if the structure has been damaged and is being restored, before the damage occurred.

For the purposes of this definition "substantial improvement" is considered to occur when the first alteration of any wall, ceiling, floor, or other structural part of the building commences, whether or not that alteration affects the external dimensions of the structure. The term does not, however, include either:

- (1) any project for improvement of a structure to comply with existing state or local health, sanitary, or safety code specifications which are solely necessary to assure safe living conditions; or
- (2) any alteration of a structure listed on the National Register of Historic Places or a State Inventory of Historic Places.

"Variance" is a grant of relief by the Governor from the requirements of this regulation which permits construction in a manner otherwise prohibited by this regulation where specific enforcement would result in unnecessary hardship (See Article 4, Section C).

### ARTICLE 3. GENERAL PROVISIONS

#### SECTION A. Lands to Which This Regulation Applies

This regulation shall apply to all areas of special flood hazards owned, leased, or managed by the State of Missouri, its departments, agencies and commissions.

#### SECTION B. Basis for Establishing the Areas of Special Flood Hazard

Under the provisions of regulations issued by the Federal Insurance Administration and published in the Federal Register on May 31, 1979, the state is deemed to be a community under the provisions of the National Flood Insurance Act of 1968, as amended. The state, as a community, may either comply with local regulations or adopt its own regulations. Since all communities in the state are not presently participating in the program it is necessary for the state to adopt its own regulations. Also, it is advantageous for the state to have consistent regulations applicable to all state structures regardless of location.

In the application of these regulations, the most current flood map issued to a community where the property is located, will be used. This map may be a Flood Boundary, Floodway, or Flood Insurance Rate Map. If no map has been issued by the Federal Insurance Administration, then the best available data from federal, state or local sources will be used in determining the applicability of these regulations.

#### SECTION C. Compliance

No structure or land shall hereafter be located, extended, converted, or structurally altered without full compliance with the terms of this regulation and other applicable regulations.

#### SECTION D. Abrogation and Greater Restrictions

This regulation is not intended to repeal, abrogate, or impair any existing easements, covenants, or deed restrictions. However, where this regulation and another conflict or overlap, which ever imposes the more stringent restrictions shall prevail.

#### SECTION E. Interpretation

In the interpretation and application of the regulation all provisions shall be:

- (1) considered as minimum requirements;
- (2) liberally construed in favor of the State of Missouri; and
- (3) deemed neither to limit nor repeal any other powers granted under state statutes.

#### SECTION F. Warning and Disclaimer of Liability

The degree of flood protection required by this regulation is considered reasonable for regulatory purposes. Larger floods can and will occur on rare occasions. Flood heights may be increased by man-made or natural causes. This regulation does not imply that land outside the areas of special flood hazards or

uses permitted within such areas will be free from flooding or flood damages. This regulation shall not create liability on the part of the State of Missouri or by any agency, officer or employee thereof for any flood damages that result from reliance on this ordinance or any administrative decision lawfully made thereunder.

#### ARTICLE 4. ADMINISTRATION

##### SECTION A. Designation of State Coordinator

The state coordinator as designated by the Governor is hereby authorized to administer the flood insurance program statewide. The Division of Design and Construction shall be responsible for implementing these regulations as they pertain to state property.

##### SECTION B. Duties and Responsibilities

(1) The state coordinator shall:

(a) Review all state development plans to assure that sites are reasonably safe from flooding and that the requirements of this regulation have been satisfied.

(b) Obtain, review, and reasonably utilize any base flood elevation data available from federal, state, local, or other source.

(c) Make the necessary interpretation, to determine the boundaries of the areas of special flood hazards, where there appears to be a conflict between a mapped boundary and actual field conditions.

(d) Maintain records pertaining to the provisions of this regulation. All records shall be open for public inspection.

(e) Make necessary revisions to these regulations as provided in Executive Order 81-12.

(2) All state agencies shall:

(a) Notify the Office of Administration, Division of Design and Construction, of any planned improvements or modifications to state property which involve activity in a flood plain area.

(b) Notify communities adjacent to the development, the Department of Natural Resources, and the state coordinator prior to any alteration or relocation of a watercourse, and submit evidence of such notification to the state coordinator.

(c) Assure that maintenance is provided within the altered or relocated portion of said watercourse so that the flood carrying capacity is not diminished.

(d) Verify and record the elevation (in relating to mean sea level) of the lowest floor (including basement) of all new or substantially improved structures, and submit a copy to the state coordinator.

(e) Verify and record the elevation (in relating to mean sea level) of which new or substantially improved structures have been floodproofed, and submit a copy to the state coordinator.

(3) Office of Administration, Division of Design and Construction, shall:

(a) Certify the adequacy of floodproofing utilized for a particular structure, and submit a copy to the state coordinator.

(b) Review reports of inadequate maintenance and prescribe appropriate corrective actions.

#### SECTION C. Appeal and Variances Procedures

(1) Appeals and requests for variances from the requirements of this regulation shall be made to the Governor. Records of variance requests and actions taken shall be maintained by the state coordinator in accordance with Section 60.6 of Federal Regulation 31177, May 31, 1979.

### ARTICLE 5. PROVISIONS FOR FLOOD HAZARD REDUCTION

#### SECTION A. General Standards

In all areas of special flood hazards the following provisions are required:

(1) All new construction and substantial improvements shall be anchored to prevent flotation, collapse or lateral movement of the structure;

(2) All new construction and substantial improvements shall be constructed with materials and utility equipment resistant to flood damage;

(3) All new construction or substantial improvements shall be constructed by methods and practices to minimize flood damage;

(4) All new and replacement sanitary sewerage systems shall be designed to minimize or eliminate infiltration of flood waters into the system;

(5) New and replacement sanitary sewerage systems shall be designed to minimize or eliminate infiltration of flood waters into the systems and discharges from the systems into flood waters; and

(6) On-site waste disposal systems shall be located to avoid impairment to them or contamination from them during flooding.

(7) The storage or processing of materials that are in time of flooding buoyant, flammable, explosive, or could be injurious to human, animal or plant life is prohibited.

(8) Storage of other material or equipment may be allowed if not subject to major damage by floods and firmly anchored to prevent flotation or if readily removable from the area within the time available after flood warning.

#### SECTION B. Specific Standards

In all areas of special flood hazards where base flood elevation data has been provided as set forth in Article 3, Section B or Article 4, Section B(1)(b), the following provisions are required:

(1) Residential Construction - New construction or substantial improvement of any residential structure shall have the lowest floor, including basement, elevated above the base flood elevation.



(2) Non-residential Construction - New construction or substantial improvement of any non-residential structure shall either have the lowest floor, including basement, elevated above the level of the base flood elevation or, together with attendant utility and sanitary facilities, be floodproofed so that below the base flood level the structure is water tight with walls substantially impermeable to the passage of water and with structural components having the capability of resisting hydrostatic or hydrodynamic loads and effects of buoyancy. A registered professional engineer or architect shall certify that the standards of this subsection are satisfied.

(3) Floodways - Located within areas of special flood hazard established in Article 3, Section B are areas designated as floodways. Since the floodway is an extremely hazardous area due to the velocity of flood waters which carry debris, potential projectiles and erosion potential and convey the 100 year flood flow, the following provision shall apply:

All encroachments, including fill, new construction, substantial improvements and other developments are prohibited, unless certification by a professional engineer or architect is provided which demonstrates that the activity proposed will not increase the water surface elevation of the base flood, and that all applicable flood hazard reduction provisions of Article 5 are complied with. Mobile homes are specifically prohibited from floodways.

(4) Shallow Flooding - Located within areas of special flood hazard established in Article 3, Section B are areas designated as shallow flooding (AO Zones). These areas have special flood hazards associated with flood depths of 1 to 3 feet where a clearly defined channel does not exist and where the path of flooding is unpredictable and indeterminate. The following provisions shall apply to all new construction and substantial improvements in shallow flood areas:

(a) Residential structures shall have the lowest floor, including basement, elevated above the crown of the nearest street, or above the depth number specified on the applicable Flood Insurance Rate Map (FIRM), if available.

(b) All non-residential structures shall:

(i) Comply with provisions of Article 5, Section B(4)(a) above; or

(ii) together with attendant utility and sanitary facilities be completely floodproofed to or above that level so that any space below that level is watertight with walls substantially impermeable to the passage of water and with structural components having the capability of resisting hydrostatic and hydrodynamic loads and effects of buoyancy.

## ARTICLE 6. NON-CONFORMING USE

(1) A structure or the use of a structure or premises which existed before the effective date of this regulation but which is not in conformity with the provisions of this regulation may be continued subject to the following conditions:

(a) No such use or substantial improvement of that use shall be expanded, changed, enlarged, or altered in a way which increases its non-conformity.

(b) If such use is discontinued for 12 consecutive months, any future use of the building premises shall conform to this regulation.

(c) Uses or adjuncts thereof which are or become nuisances shall not be entitled to continue as non-conforming uses.

(2) If any non-conforming use or structure is destroyed by any means, including flood, it shall not be reconstructed if the cost is more than 50 percent of the market value of the structure before the damage occurred unless it is reconstructed in conformity with the provisions of this regulation. This limitation does not include the cost of any alteration to comply with existing state or local health, sanitary, building, or safety codes or regulations or the cost of any alteration of a structure listed on the National Register of Historic Places or a State Inventory of Historic Places.

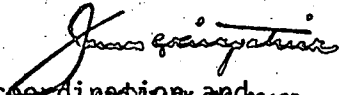
#### ARTICLE 7. AMENDMENTS

This regulation may from time to time be amended, supplemented, changed or repealed to reflect any and all changes in the National Flood Disaster Protection Act of 1973. The provisions of this regulation are in compliance with the National Flood Insurance Program Regulations as published in the Federal Register, Title 44, FR 31177, dated May 31, 1979 (redesignated from 41 FR 46968, dated October 26, 1976).

EXECUTIVE ORDER  
82-19

FILED

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Provisions for the necessary and appropriate state coordination and participation with the Federal Insurance Administration under the National Flood Insurance Act of 1968, as amended, and rules and regulations promulgated thereunder.

WHEREAS, expanding uses of the State's floodplains, frequently involving high value developments and high density human dwellings, are occurring and potential flood losses are increasing despite substantial efforts to control floods; and

WHEREAS, studies of areas and property subject to flooding indicate a further increase in flood damage potential and flood losses, even with continuing investment in flood protection structures; and

WHEREAS, the State of Missouri has continuing programs for the construction of buildings, roads, and other facilities and annually acquires and disposes of land, all of which activities significantly influence patterns of commercial, residential, and industrial development; and

WHEREAS, the availability of programs for Federal loans and mortgage insurance, State and Federal financial assistance are determining factors in the utilization of land; and

WHEREAS, the availability of flood insurance under the National Flood Insurance Act of 1968, as amended, is dependent upon state coordination of Federal, State and local aspects of floodplain, mudslide (i.e., mudflow) area and flood-related erosion area management activities in the State; and

WHEREAS, the Federal Insurance Administration has promulgated and adopted rules and regulations governing eligibility of State and local communities to participate in the National Flood Insurance Program, which participation depends on State coordination and the designation of an agency in the State of Missouri to be responsible for coordinating Federal, State and local aspects of floodplain, mudslide (i.e., mudflow) area and flood-related erosion area management activities in the State of Missouri; and

WHEREAS, the State of Missouri is required to designate a State Coordinating Agency to be responsible for State coordination.

NOW, THEREFORE, I, CHRISTOPHER S. BOND, GOVERNOR OF THE STATE OF MISSOURI, by virtue of the authority vested in me by the Constitution and laws of Missouri, hereby order as follows:

SECTION 1. The State of Missouri will encourage a broad and unified effort to insure that future uses and development of the State's floodplains are analyzed and conducted in a manner to lessen the risk of flood losses, particularly in connection with State lands and installations and State financed or supported improvements. Specifically:

(1) The Director of the Department of Natural Resources is hereby designated the State Coordinator of the National Flood Insurance Program in Missouri, as described in Section 60.25 of the Rules and Regulations of the Federal Insurance Administration.

(2) In accordance with Section 60.12 of the Rules and Regulations of the Federal Insurance Administration, and under the leadership and direction of the Office of Administration, Division of Design and Construction, all State agencies directly responsible for the construction of buildings, or other structures shall make every effort to preclude the hazardous, unnecessary or unwise use of flood plains in connection with such construction.

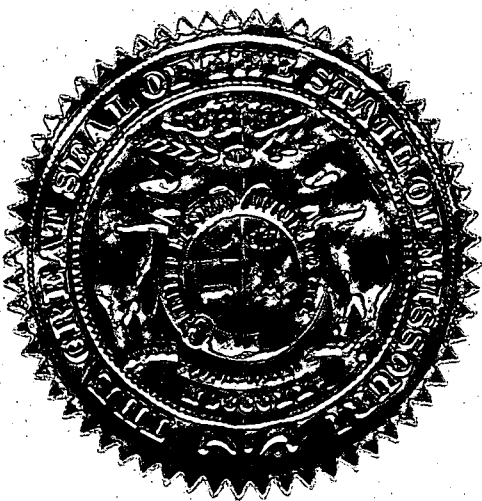
(3) All State agencies responsible for the administration of grant or loan programs involving the construction of buildings or other structures, shall evaluate flood hazards in connection with such structures and, to minimize the exposure of facilities to potential flood damage and the need for state expenditures for flood protection and flood disaster relief, shall make every effort to preclude the hazardous, unnecessary or unwise use of flood plains in connection with such construction.

(4) All State agencies shall take flood hazards into account when evaluating programs, plans and projects and shall provide for measures to prevent or guard against such hazards, appropriate to the degree of hazard involved.

SECTION 2. State Flood Plain Management Regulations for State Property are attached hereto and are hereby made a part of this Executive Order. These regulations may be amended from time to time by the State Coordinator so long as such amendments remain within the scope and purpose of this order.

SECTION 3. This order shall take effect immediately and shall supercede all previous Executive Orders on the same subject.

IN TESTIMONY WHEREOF, I have hereunto set my hand and caused to be affixed the Great Seal of the State of Missouri in the City of Jefferson on this 17th day of November 1982.



*Christopher Bond*  
GOVERNOR

ATTEST:

*James Kirkpatrick*  
SECRETARY OF STATE